CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

AMENDMENTS
TO
THE WATER QUALITY CONTROL PLAN FOR THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS

FOR

THE CONTROL OF SALT AND BORON DISCHARGES INTO THE LOWER SAN JOAQUIN RIVER

FINAL STAFF REPORT

APPENDIX 6: PEER REVIEW COMMENTS AND RESPONSES

10 September 2004

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Description of Peer Review Process

Health and Safety Code § 57004 requires the Regional Board to have the scientific portions of its Basin Plan Amendments undergo external peer review. The State Water Resources Control Board has a contract with the University of California to conduct the peer review.

The Regional Board followed the "Guidelines for Obtaining External Scientific Peer Review" (Pettit, 1998) issued by the State Board's Executive Director. The following provides a summary of the peer review process used for this Basin Plan Amendment:

On 31 December 2002, Regional Board staff sent a memo to the State Board's peer review coordinator requesting peer review for the proposed Basin Plan Amendment (Grober 2002). The memo included general background on the problem and the scientific issues that are addressed by the proposed Basin Plan Amendment. The specific questions to be asked of the peer reviewers were also provided (these questions are shown in the comment/response below).

On 17 January 2003, the State Board's peer review coordinator provided Regional Board staff with the names of the two peer reviewers who had agreed to perform the peer review (Bowes, 2003). Dr. Hanson is an Irrigation and Drainage Specialist for the Cooperative Extension in the Department of Land, Air, and Water Resources at the University of California, Davis. Dr. Hanemann is a Chancellor's professor and Professor of environmental and resource economics in the Department of Agricultural and Resources Economics at the University of California, Berkeley.

On 11 August 2003, Regional Board staff contacted the peer reviewers and asked if they had participated in the development of the scientific basis for the proposed action and whether they had an economic conflict of interest with regard to the outcome of their comments or recommendations (Grober, 2003a). Dr. Hanemann (Hanemann, 2003a) and Dr. Hanson (Hanson, 2003a) responded that they had not participated in the development of the proposed action nor had an economic interest in the outcome.

On 30 September 2003, Regional Board staff sent the peer reviewers a copy of the Staff Report and supporting appendices except for Appendix 5 (Technical Evaluation of Alternatives), which was not yet available for review (Grober 2003b). On 29 October, Regional Board staff sent the peer reviewers a copy of Appendix 5 (Grober, 2003c).
Peer review comments were received from Dr. Hanson on 3 November 2003 (Hanson, 2003b) and from Dr. Hanemann on 11 November 2003 (Hanemann, 2003b).

Peer Review Comments

The same questions, shown in italics below, were posed to each peer reviewer. Following the questions are the comments provided by each peer reviewer. Staff responses to peer reviewer comments follow each comment. Additional peer reviewer comments and responses are also provided.

Peer Reviewer 1: Dr. Hanson

Peer Review Question 1-1:
Is a reasonable method described in the report for deriving the TMDL (total assimilative capacity) for the Lower San Joaquin River (i.e. given the available data and methods for estimating assimilative capacity is the method described reasonable)?

Peer Review Comment 1-1:
It appears to me that the method described in the Appendix 1 is reasonable for estimating the assimilative capacity of the Lower San Joaquin River. However, there are some problems with units and conversion factors. I would encourage consistency in terms between the main report and appendices. For example, Table IV-7 of the main report lists base load applications while in Appendix 1, the same numbers are labeled as total load applications. Also, it is not clear to me how the supply credits listed in Table IV-7 are incorporated into the picture. In Appendix 1, TMML is used, but in the main report, TMDL is used.

Response:
Unit and unit conversion factor problems have been corrected. The term "total load allocation" in Appendix 1 has been replaced with "base load allocation" for consistency. TMDL is the conventional acronym used to abbreviate Total Maximum Daily Load. The term TMDL is used to describe the water quality planning process in a general sense. In this TMDL, however, load allocations are set for a monthly time step. The term Total Maximum Monthly Load (TMML) is therefore more accurate and descriptive when referring to the actual load allocations. The terms TMDL and TMML are therefore both used in the document.

Peer Review Question 1-2:
Does the report adequately support the methods for deriving waste load and load allocations (i.e. is the method supported by the information available to the Regional Board and is it consistent with the calculated loading capacities)?

Peer Review Comment 1-2:
In my opinion, the report adequately supports the methods used for deriving the TMDL.

Response:
Comment noted

Peer Review Question 1-3:
Does the report adequately demonstrate that it is reasonable to expect that water quality objectives can be achieved with the proposed changes in loading?

Peer Review Comment 1-3:
On page 80 of the main report, some discussion is provided about the potential for achieving these objections. This discussion mentions that there is much uncertainty about the required to resolve the water quality problem. Some groups are likely to take issue with the statement. A more comprehensive discussion of the variables involved in obtaining the water quality objectives is needed. Why will a significant amount of time be required? What are the variables that affect salt concentrations that are beyond the purview of the Regional Board? What are some factors that contribute to the uncertainty in estimating a reasonable time period to resolve there water quality problems?

Response:
This section of the report has been modified to explain why sufficient time is needed to implement the control program. The primary reason why there is uncertainty with regard to meeting water quality objectives is that there are factors beyond the authority of the Regional Board that affect salinity concentrations in the LSJR. Modeling studies conducted by the Regional Board indicate that the LSJR will not achieve compliance with salinity water quality objectives at all times (especially during critically dry years) even if all the discharges from agriculture and managed wetlands are eliminated. These modeling studies were conducted by Regional Board as part of this staff report and in conjunction with the development of the State Water Board's 1995 *Water Quality Control Plan for the San Francisco Bay/Sacramento San Joaquin Delta Estuary*, as cited in the staff report. The Regional Board has broad authority over discharges to land, surface water, and groundwater. The Regional Board, however, does not have authority over water rights, precluding the ability to directly implement some of the actions needed to completely solve the salinity problem. The proposed program of implementation will result in significant improvements in water quality throughout the impaired segment and reduction in the exceedences of the water quality objectives at Vernalis.

Peer Review Question 1-4:
Is a reasonable method of accounting for the water quality impacts of the consumptive use of water described?

Peer Review Comment 1-4:
I am not sure of how to respond to this question? How is consumptive use defined? The report presents the water quality standard and what might happen if this standard is exceeded. Some discussion is needed on the assumptions used to for the water quality standard.

Response:
The consumptive use allowance (CUA) is described Section 4.2 of Appendix 1. A discussion of the impacts of salinity on various beneficial uses is provided in Section 2.1 of Appendix 1. Justification for the existing salinity objective, however, is not provided because the proposed TMDL does not seek to modify a water quality objective. It is rather intended to implement an existing objective. Moreover, the State Water Board established the existing salinity water quality objectives. The Regional Board does not have authority to modify these objectives. Supporting information for the existing salinity objective is contained in the State Water Board's

1995 *Water Quality Control Plan for the San Francisco Bay/Sacramento San Joaquin Delta Estuary* (Bay Delta Plan).

Peer Review Question 1-5:
Is a reasonable method of accounting for salt load in agricultural and wetland supply water described?

Peer Review Comment 1-5:
I am not sure how the salt load in the supply water is accounted for. I understand the concept of supply credits as listed in Table IV-7 of the main report, but I somehow could not see how that was used in calculating the total load allocations in Table 4-12 of Appendix 1.

Response:
Salt load allocations are proposed for the USBR for salts in supply water delivered from the Central Valley Project (primarily delivered through the Delta Mendota Canal (DMC)) to account for salt imports. The UBSR supply water load allocations are equal to the volume of water delivered from the DMC at a background Sierra Nevada quality of 52 mg/L. The supply water credit provided to west side dischargers is equal to 50% of the salt delivered from the DMC or diverted from the LSJR that is in excess of 52 mg/L background concentration. The supply water credits and the USBR's responsibility for loads in excess of their allocations are not used in the calculation of the base load allocations in Appendix 1 (Table 4-12); instead they are layered on top of the base load allocations. In other words, base load allocations are established for non point source dischargers. In addition to the base load allocations, west side dischargers receive a credit for 50 % of the salt in their supply water (in excess of background loads). The USBR is provided an allocation (limit) for salts in their supply water. The mitigation required by the USBR for loads in excess of their allocation, more than offsets the credit provided to west side dischargers.

Peer Review Question 1-6:
Is a reasonable method of assigning responsibility for salt loads in agricultural and wetland supply water described?

Peer Review Comment 1-6:
The approach listed on page 80 assigning priority for implementation based on unit area loading from each subarea is a reasonable approach in my opinion.

Response:
Comment noted

Additional Peer Review Comments from Dr. Hanson

Comments on Main Report

Comment 1-7:
As I read the report, Table IV-7 appears to be a key part of the TMDL process in determining the allowable loading. Yet the table is hardly discussed, mentioned briefly on page 16. In my opinion, much more discussion is needed to show how the various components come together. An example would help. There is a problem between the units used for some of the terms and the conversion factors. For example, on page 18 under the "real-time load allocations", the conversion unit is 0.0008293. However, the unit for Q is thousand acre-feet per month, which conflicts with the unit described in the paragraph just above the equation (starts with "Loading Capacity (LC)…"), which is acre-feet per month. The previous paragraph states that the flow is thousand acre-feet per month. If the flow unit is acre-feet per month, the conversion factor is 0.8293. This problem also exists on page 19.

Response:
Documentation and supporting information for data, information, and methods presented in Table IV-7 is provided in Sections 4.2 through 4.4 of Appendix 1. Example calculations for determining load allocations are also included in Section 4.5 of Appendix 1. The unit conversion factor problems have been corrected.

Comment 1-8:
I feel that some discussion is needed on how the numbers in Table 4.2 were determined because those numbers are the basis for the TMDL objectives. As part of the discussion, leaching fractions needed to maintain agricultural production should be presented. For example, beans would require about a 20% leaching fraction for an irrigation water salinity of 0.7 dS/m. You reference a report, but some discussion would be useful in this plan.

Response:
No additional information on how water quality objectives were determined is included in the staff report because modification of these objectives is not proposed at this time.

Comment 1-9:
Consumptive use allocation used on page 36 should be defined. I finally found a discussion on this in Appendix 1, but a discussion on this term is needed in the main report.

Response:
Reference to relevant sections of Appendix 1 has been added to Section 4.4.1 of the main staff report.

Comment 1-10:
It would be helpful if Figure 3.4 in Appendix 1 were included in the main report. It would help in identifying the subareas.

Response:
The subarea map has been added to the main staff report as Figure 2-1 in Section 2.

Comment 1-11:
I found the discussion on regulatory options somewhat confusing. I do not understand the differences between options 5 and 9, between options 6 and 10, and between options 7 and 11.

Response:
Options 5 and 9 are similar, except that under option 5, individual waste discharge requirements would be issued to individual landowners, while under option 9 general or region-wide waste discharge requirements would be issued to individual landowners. Option 5 would be much more costly for both the State and for landowners, since individual permits would need to be developed for approximately 9,000 landowners. Individual permits could be customized for each landowner but this is very labor intensive for staff, and landowners would likely incur higher administrative and implementation costs. The time needed to develop and implement 9,000 individual permits would be excessive, compared to developing a handful of regional or subarea specific general waste discharge requirements.

The difference between options 6 and 10 and options 7 and 11 are similar, except options 6 and 10 would apply to public water agencies and options 7 and 11 would apply to specific geographic areas. Again, the primary difference is regulation through individual permits as opposed to regulation through general permits. Issuances of individual waste discharge requirements typically include effluent limits for specific discharges and significant monitoring and reporting requirements. On the other hand, general waste discharge requirements can be developed to allow dischargers to file a notice of intent to comply with general permit conditions, and monitoring and reporting requirements are typically more streamlined.

Comment 1-12:
Staff Report, Page 68: A discussion on alternatives is started. As best as I can determine, this alternatives consist of combinations of the options previously discussed. This should be clarified in the first paragraph under 4.4.6. Use the word "options" instead of "strategies".

Response:
The recommended change has been made.

Comment 1-13:
Page 74, paragraph 4: A statement is made about treatment contributing to the relatively high cost of this alternative. A discussion of the treatment options is needed prior to this paragraph. Is treatment really feasible? Treatment is also referred to on page 76.

Response:
A detailed discussion of the treatment options and associated treatment costs are included in Appendix 2: Methods For Reducing Salt and Boron Concentrations in the Lower San Joaquin River, and in more detail in Appendix 4: Economic Analysis.

Comment 1-14:
Page 77: The term "drainage re-operation" is used. What is meant by drainage re-operation? Please define. Is it the same as drainage reuse?

Response:
Drainage re-operation involves changing the timing of drainage releases to the LSJR to coincide with periods of assimilative capacity by temporarily storing saline drainage when assimilative capacity is limited, then releasing stored drainage when assimilative capacity becomes available. A description of drainage re-operation has been included in section 4.4.7 of the staff report . Additional information on drainage re-operation is included in the description of real-time management in Section II of Appendix 4.

Comment 1-15:
Pages 13 and 14: The sentence, "The Regional Board adopted….." is repeated in this paragraph.

Response:
The duplicate language had been deleted.

Comments on Appendix 1:

Comment 1-16:
Page 1-21: Discussion of assumptions used to develop the salinity criterion is desirable. What is adequate drainage? What range of leaching fractions is needed for the various crop types?

Response:
See response to comment 1-8

Comment 1-17:
Page 1-20: It is stated that the multiplier 0.65 is typical used to convert EC to mg/l. However, on page 1-55, it is recommended that 0.61 be used in-lieu of site-specific data.
Why the different multipliers? What multiplier is recommended for the subsurface drainage discharges from irrigated fields? I analyzed some DWR data a few years ago and concluded that a multipler of 740 is appropriate for drainage water EC's less than about 5 dS/m, a multiplier of 840 for ECs between 5 and 10 dS/m, and 920 for ECs greater than 10 dS/m.

Response:
The 0.65 multiplier is typically used to convert from EC to TDS in the main stem of the San Joaquin River from Lander Avenue to Vernalis. The 0.61 multiplier cited in Appendix 1 is a site specific multiplier for Vernalis based on recent water quality data. When calculating total assimilative capacity in tons at Vernalis, it is appropriate to use a 0.61 multiplier. When calculating loading from individual sources, the TMDL recognizes the need to use site-specific conversion factors due to the variability in dissolved constituent composition of different sources (Appendix 1, Section 4.2).

Comment 1-18:
Page 1-52: Define deep and shallow groundwater in terms of depth to groundwater.

Response:
Appendix 1 has been updated to indicate that the groundwater model used to disaggregate deep and shallow groundwater flow relied on data from 22 wells that ranged in depth from 5 to 107.5 feet. Both the deep and shallow components of groundwater flow are in the unconfined aquifer, and therefore above the Corcoran Clay layer. The Corcoran clay generally ranges from 200 to 800 feet below the ground surface.

Comment 1-19:
Page 1-55: Flow rate unit should be acre-feet per month.

Response:

This correction has been made.

Comment 1-20:
Page 1-62: It should be noted that the SAE assumes that surface runoff is beneficially used, and that the inefficiency is due to percolation below the root zone.

Response:

Comment noted.

Comment 1-21:
Page 1-59: Is it TMDL or TMML that is going to be used for water quality control?

Response:
See response to comment 1-1.

Peer Reviewer 2: Dr. Hanneman

Peer Review Question 2-1:
Is a reasonable method described in the report for deriving the TMDL (total assimilative capacity) for the Lower San Joaquin River (i.e. given the available data and methods for estimating assimilative capacity is the method described reasonable)?

Peer Review Comment 2-1:
The method described in the report for deriving the TMDL does appear to be reasonable.

Response:
Comment noted.

Peer Review Question 2-2:
Does the report adequately support the methods for deriving waste load and load allocations (i.e. is the method supported by the information available to the Regional Board and is it consistent with the calculated loading capacities)?

Peer Review Comment 2-2:
In general, the report adequately supports the methods for deriving waste loads and load allocations. I have a small suggestion with regard to the calculation of salt loads to the lower SJR from domestic sources. These are calculated in Appendix C by using national averages of individual water use. My suggestion is that you consider using California-specific data. I understand that, according to Metcalf and Eddy Table 2.1 average municipal water use in the US is 60 gallons per capita per day (gpcd). If this figure is intended to include outdoor as well as indoor use, it is likely to be too low; even if it is intended to be just indoor use, it is likely to be too low. In Table 2.3 of my chapter on "Determinants of Urban Water Use" in Duane Bauman, John Boland and Michael Hanemann Urban *Water Demand Management and Planning*, McGraw Hill 1998, I cite data from a 1993 MWD report showing that, for single-family residences in the MWD service area, indoor water use averages about 97 gpcd and outdoor water use averages 53 gpcd, for a total of about 150 gpcd; for multi-family residences, the indoor use is about 89 gpcd and the outdoor use is 21 gpcd, for a total of about 110 gpcd. Given the proportion of single- and multi-family residences in the MWD service, the overall average residential use is about 130 gpcd, of which about 93 gpcd is indoor. While these figures are for the MWD service area, they might serve as a roughly indication for the municipalities in the LSJR region in the event that more specific data cannot be obtained.

Response:
Comment is noted, however, the recommendation has bearing only in the numbers that would be generated for a revised source analysis. The suggested modification would have no effect on the proposed waste load allocations because the waste load allocations are concentration-based and set equal to the salinity water quality objectives at Vernalis. Furthermore, the final calculations of total municipal and industrial loading are based solely on self monitoring data from the dischargers and as such these calculations are relatively accurate. Estimation of salt loading from "personal use" was conducted to provide a general sense of the salt added from municipal

sources and not as a component of the estimate for total salt loading from municipal and industrial point sources.

Peer Review Question 2-3:
Does the report adequately demonstrate that it is reasonable to expect that water quality objectives can be achieved with the proposed changes in loading?

Peer Review Comment 2-3:
The report does adequately demonstrate that the water quality objectives can reasonably be expected to be achieved with the proposed changes in loading.

Response:
Comment noted.

Peer Review Question 2-4:
Is a reasonable method of accounting for the water quality impacts of the consumptive use of water described?

Peer Review Comment 2-4:
The method of accounting for the water quality impacts of the consumptive use of water appears reasonable.

Response:
Comment noted.

Peer Review Question 2-5:
Is a reasonable method of accounting for salt load in agricultural and wetland supply water described?

Peer Review Comment 2-5:
The method of accounting for salt load in agricultural and wetland supply water appears reasonable.

Response:
Comment noted.

Peer Review Question 2-6:
Is a reasonable method of assigning responsibility for salt loads in agricultural and wetland supply water described?

Peer Review Comment 2-6:
The method of assigning responsibility for salt loads in agricultural and wetland supply water appears reasonable. The decision to devote attention to regulatory approaches with a specific geographical focus, which is a common feature of Alternatives 2, 3, and 4, is reasonable and well-founded.

Response:
Comment noted.

Additional Peer Review Comments Dr. Hanneman

Comment 2-7:
Appendix 4: The analysis appears to be painstaking and thoughtful. I have a couple of questions about the costs. Have you been able to check with local irrigation experts (e.g., Summers Engineering) how well Rodney Smith's estimates of the costs of tailwater recovery systems in the Imperial Valley are likely to carry over to the Westlands /Grasslands area? To the extent that the soils and other farming conditions on the Westside are slightly different from those in Imperial Valley, I wonder whether there might be some small differences in costs. However, if there are differences, I would not expect them to be very large.

Response:
Staff conferred with staff at Summers Engineering regarding tailwater recovery costs, however, at that time they did not have as extensive experience with tailwater recovery system cost as they did with tilewater recovery systems. At the time they were working on design of the Marshal Drain tailwater recovery system, but it was in the early stages and cost information was incomplete. We agree that there will be differences in costs based on site conditions, however, it was our intention to use higher cost estimates in order to be conservative. Out of all the cost estimate information that we reviewed, the costs from the Smith study were the highest.

Comment 2-8:
Appendix 4: The cost estimates of evaporation ponds and temporary retention ponds are based on estimates of the mean annual volume of drainage needing treatment in the various year types, as developed in Appendix 5. These are annual averages, and the peak, say, weekly or monthly flows would be larger than these averages. Does that affect the cost estimates? To what extent are some capacity-related components of cost likely to be sensitive to peak flows that are significantly larger than the average annual flows? Has that been accounted for in the calculation of costs.

Response:
The economic analysis estimated costs associated with peak flows by applying a multiplier of 1.4 to the cost estimates developed for the mean annual volume of drainage needing treatment. The multiplier of 1.4 represents the ratio of the mean volume of drainage to the maximum volume of drainage generated from non point source discharges (see Appendix 4, Section II).

Comment 2-9:
Appendix 4: With regard to the agricultural production costs presented in Section III of Appendix 4, one should remember that, as I recall, the Cooperative Extension cost sheets on which these are based generally omit farmer's debt payments for land acquisition. These are idiosyncratic to the individual farmer and cannot readily be estimated from existing available data. In the economic analysis of WQ 85-1 that I and my colleagues conducted for SWRCB in 1986, we made a creative attempt to estimate farm debt loads, and we found that they were very

relevant to the determination of whether existing farming operations were likely to go bankrupt. We also made an attempt to account for differential land productivity (based on yield tables from soil maps) in order to quantify the amount of marginal land that might go permanently out of production.

Response:
The UC cost and return studies used to develop estimates of existing cost of agricultural production include land costs. In some cases land costs are expressed as rent and in some cases land costs are expressed as interest only payments. Initially, Appendix 4 did not include land costs, however, the cost estimates in Appendix 4 have been updated to include all land and other "non-cash" capital costs identified in the crop specific UC cost and return studies.

Water code section 13241 requires consideration of economics for adoption of new water quality objectives (but none are being proposed as part of this Basin Plan Amendment). State law requires that basin plans indicate estimates of the total cost and identify potential sources of funding of any agricultural water quality control program prior to its implementation (water code section 13141). Appendix 4, the Economic Analysis, does not purport to predict changes in agricultural production that will result from the added costs associated with the proposed control program. This level of analysis is beyond the scope of the economic analysis and beyond the requirement to consider economics when developing and evaluating a proposed control program. Appendix 4 and the summary provided in Chapter 5 of the Basin Plan Amendment staff report have, however, been updated to reference information on the effect of agricultural drainage control costs on agricultural solvency that was contained in the State Water Board's Order No. WQ 85-1 Technical Committee Report. Additional discussion and an example of how agricultural viability is subject to factors beyond the Regional Board's control has also been added to the staff report and Appendix 4.

Comment 2-11:
Appendix 4: To the extent that any of the regulatory alternatives does drive land out of production this will affect drainage volume and treatment requirements. For reasons that I well understand, the present analysis does not have a feedback loop linking drainage related costs and charges to changes in drainage volumes occurring as the result of changes in cropping patterns and/or land going out of production. If the drainage volume does shrink, to the extent that there are fixed capacity costs, these might have to be recovered from a smaller number of acres of farmland.

Response:
Staff agrees with the comment. Since the economic analysis does not predict impacts on agricultural production or bankruptcy it was not possible to have a feedback loop linking drainage related costs and charges to changes in drainage volumes occurring as the result of changes in cropping patterns and/or land going out of production. If land goes out of production, then costs will need to be recouped from a smaller number of acres of farmland, however, less drainage will need to be treated so costs will also be reduced by some degree. Although these costs may need to be recouped from a smaller number of acres of farmland, the total cost of compliance will be decreased.

Health and Safety Code § 57004

57004. (a) For purposes of this section, the following terms have the following meanings:
(1) "Rule" means either of the following:
(A) A regulation, as defined in Section 11342.600 of the Government **Code**.
(B) A policy adopted by the State Water Resources Control Board pursuant to the Porter-Cologne Water Quality Control Act (Division 7 (commencing with Section 13000) of the Water **Code**) that has the effect of a regulation and that is adopted in order to implement or make effective a statute.
(2) "Scientific basis" and "scientific portions" mean those foundations of a rule that are premised upon, or derived from, empirical data or other scientific findings, conclusions, or assumptions establishing a regulatory level, standard, or other requirement for the protection of public health or the environment.
(b) The agency, or a board, department, or office within the agency, shall enter into an agreement with the National Academy of Sciences, the University of California, the California State University, or any similar scientific institution of higher learning, any combination of those entities, or with a scientist or group of scientists of comparable stature and qualifications that is recommended by the President of the University of California, to conduct an external scientific peer review of the scientific basis for any rule proposed for adoption by any board, department, or office within the agency. The scientific basis or scientific portion of a rule adopted pursuant to Chapter 6.6 (commencing with Section 25249.5) of Division 20 or Chapter 3.5 (commencing with
Section 39650) of Division 26 shall be deemed to have complied with this section if it complies with the peer review processes established pursuant to these statutes.
(c) No person may serve as an external scientific peer reviewer for the scientific portion of a rule if that person participated in the development of the scientific basis or scientific portion of the rule.
(d) No board, department, or office within the agency shall take any action to adopt the final version of a rule unless all of the following conditions are met:
(1) The board, department, or office submits the scientific portions of the proposed rule, along with a statement of the scientific findings, conclusions, and assumptions on which the scientific portions of the proposed rule are based and the supporting scientific data, studies, and other appropriate materials, to the external scientific peer review entity for its evaluation.
(2) The external scientific peer review entity, within the timeframe agreed upon by the board, department, or office and the external scientific peer review entity, prepares a written report that contains an evaluation of the scientific basis of the proposed rule. If the external scientific peer review entity finds that the board, department, or office has failed to demonstrate that the scientific portion of the proposed rule is based upon sound scientific knowledge, methods, and practices, the report shall state that finding, and the reasons explaining the finding, within the agreed-upon timeframe. The board, department, or office may accept the finding of the external scientific peer review entity, in whole, or in part, and may revise the scientific portions of the proposed rule accordingly. If the board, department, or office disagrees with any aspect of the finding of the external scientific peer review entity, it shall explain, and include as part of the rulemaking record, its basis for arriving at such a determination in the adoption of the

final rule, including the reasons why it has determined that the scientific portions of the proposed rule are based on sound scientific knowledge, methods, and practices.
(e) The requirements of this section do not apply to any emergency regulation adopted pursuant to subdivision (b) of Section 11346.1 of the Government Code.
(f) Nothing in this section shall be interpreted to, in any way, limit the authority of a board, department, or office within the agency to adopt a rule pursuant to the requirements of the statute that authorizes or requires the adoption of the rule.

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